



Marshall Center Deputy Director Carolyn Griner greets Dr. Ron Saunders, superintendent of Huntsville City Schools, during last week's "sneak preview" of a new Army-NASA Virtual Reality Applications Center in Building 4663. The center is planned to fill several roles, including training workers and helping small businesses with product development. *Photo by Terry Leibold*

Agreement Enhances Space Station with Additional Node

The planned final configuration of the International Space Station has been enhanced under a recent agreement signed by NASA with the European Space Agency (ESA) that will have ESA construct two station docking nodes, one of which is a new addition, in exchange for the planned NASA launch of the station's ESA-supplied Columbus laboratory module.

"The Italian Space Agency and its Alenia contractor will provide the labor and materials to build the nodes," said Robert Crumbley, Marshall's Space Station Nodes office manager. "The primary structure will be new, based on their Mini-Pressurized Logistics Module design, while NASA will provide the outfitting equipment.

"Marshall will have several areas of work, including providing design requirements and design and development oversight; performing systems engineering, integration and verification; performing functional and analytical integration, test and verification; and provide ground support equipment and test support equipment to support these efforts," Crumbley said. "NASA will also provide all the items on the list of government-furnished equipment and contractor-furnished equipment as well as performing data analysis," he added.

The launch-offset barter agreement, a type of agreement common within the International Space Station Program, exchanges ESA services to construct the nodes as payment to NASA for the launch of the Columbus module.

Under the agreement, ESA will supply Node 2, a docking node planned to be launched in mid-2000 and connected to the United States Laboratory Module, and Node 3, a new addition to the station planned to be launched after station assembly is completed in the current assembly sequence.

Node 3 will attach to the station's habitation module and provide valuable additional docking ports to the orbital outpost.

continued on page 3

Researchers To Compare Notes at Marshall In Workshop on Solar Thermal Propulsion

by Bob Thompson

If you could travel in a way that uses less fuel, requires less maintenance, costs less and is pollution-free — you'd hop aboard wouldn't you?

If so, the place to be is the Marshall Center where researchers are hosting the Solar Thermal Propulsion Workshop March 19-20. Some of the top minds in the field will be comparing notes on how to build a propulsion system that directly uses the rays of the sun to propel space ships and satellites.

Their goal is to build a more efficient way to get from low-Earth orbit to upper orbits and possibly beyond for future space exploration. Work has begun on the system and its components and testing is under way now at Marshall. The launch of the first solar thermal propulsion flight demonstration concept is expected in 1999. This flight demonstration is called "Shooting Star." It will collect and concentrate solar energy into an engine where the energy will be stored and converted into thrust.

The appeal of this advanced system is

that it is very light weight. It has a lot less parts than a conventional rocket system. This simpler design makes it significantly less expensive to build and lightens up space-going payloads. This new use of solar energy could make space travel more affordable not only for NASA but for education and industry partners as well.

At the workshop, NASA, the U.S. Air Force, universities, industry and small businesses from across the country will work as a team to harness the power of the sun. They are performing complementary research and sharing results. This is leading to cutting-edge advances for solar thermal propulsion.

"The workshop team does not anticipate solar thermal propulsion totally replacing rocket engines," said Leslie Curtis, manager of Marshall's Space Transfer Technology Office. But once in space, solar thermal propulsion could lift satellites and space ships to higher orbits and beyond.

"Solar thermal propulsion is the future of space travel," said Curtis.

Black History Program Seeks Ongoing Employee Support

It's become almost common to have a day, week or month that's officially proclaimed as "special," to highlight an idea, a group or event.

It's somewhat unusual, though, to see an effort to keep the resulting burst of attention alive, and people "pumped up" after the annual observance is finished.

That is just what organizers of this year's Black History Month program at Marshall are attempting to do, though. Although "their month" of February has passed, they are working to ensure that it will have ongoing positive impact.

The theme of this year's Black History Month was, "MSFC's African Americans: Giving Back Through Community Outreach." Having

presented that message through the program last month, the sponsoring committee has now begun work on a mentoring program targeted toward at-risk youth in the community. The value of the effort and the goal of continuing throughout the year, were highlighted by Center Director Wayne Littles in his opening remarks at the program.

"The theme this year and the work that is going on with at-risk youth in this community is an excellent way for the Center to do what we're trying to do more of, outreach to the community," said Littles. "It's a break from the traditional concentration on history. To create a

little history... we need for all employees to support this effort and activity. You have my pledge to support what is going to go on this year."

The keynote speaker for the event in Morris Auditorium, child psychologist Dr. Danny Blanchard, shared his views on how to effectively work with at-risk youth. He listed three essential factors that need to be considered when working with the targeted group:

- Create an atmosphere not only by example, but create a system of belief. Teach the youth to understand that they can be anything they want to by finding the right talent and giving them an opportunity;

continued on page 3



Marshall's own "Jackson 5" rehearse their rendition of "Dance Machine" for Caper Chase, the annual Retiree Banquet set for March 25 at the Von Braun Center.
Photo by Emmett Given

Metts Appointed to KSC Resident Office

Linder Metts, Jr., of the Space Shuttle Projects Office, has been appointed manager of Marshall's Space Shuttle Projects Resident Office at Kennedy Space Center. Metts will be responsible for all Marshall Space Shuttle operations at Kennedy including Solid Rocket Booster assembly and refurbishment activities. Metts will also serve as the Marshall Space Shuttle Projects Office representative for transition issues as the program continues to move to a single space flight operations contract. Since 1987 Metts has worked in various positions involving Marshall Center Space Shuttle projects.



Linder Metts

McConnaughey, Goldberg Named Deputy Directors in S&E Labs

Dr. Helen McConnaughey has been appointed deputy director of the Propulsion Laboratory, and Dr. Benjamin Goldberg has been appointed deputy director of the Structures and Dynamics Laboratory, both within Marshall's Science and Engineering Directorate.

McConnaughey, previously chief of the Propulsion Test Division since 1994, joined the Marshall Center in 1985.

Goldberg was the senior research scientist in the Crystal Growth and Solidification Branch of the Space Sciences Laboratory. He joined the Marshall Center in 1983.



Helen McConnaughey



Benjamin Goldberg

Procurement Office Training Set

The Marshall Procurement Office will have "Acquisition Reform Stand-Down" activities on March 17 and March 27 in Building 4200, Room G-13. Procurement Office personnel will attend training and briefings on current procurement issues, including Performance Based Contracting, the NASA Acquisition Internet Service (NAIS), Consolidated Contracting Initiative, Single Process Initiative, ISO 9000 and Socio-Economic and Small Business Subcontracting Programs. Marshall personnel are invited to attend the sessions. A detailed schedule is available on "Inside Marshall" or by calling 4-0269.

FAST Program Prepares Disabled Students for High-Tech Careers

Students involved in the Future Assets, Student Talent (FAST) program, a community initiative designed to motivate and prepare students with disabilities to further their education and achieve high-tech and professional careers, visited the Marshall Center recently to get a first-hand glimpse of the world of aerospace engineering.

"To help increase the diversity of workers at Marshall, we provide students with disabilities the opportunity to explore careers in high technology," said Shelve Miller, Marshall's technical monitor for the FAST program. "Students with a grade of C or above are eligible. However, any student will be considered if they demonstrate the potential to achieve."

Components designed to meet the varied needs of the disabled students through the FAST program include the Mentor Program, which matches professionals with FAST students for one-to-one social and career exploration; and the Professional Shadowing Program, designed to give talented students the chance to "shadow" another individual with disabilities or an understanding person in his or her daily professional environment.

The Professional Shadowing Program is one of the most successful aspects of FAST, according to Miller.

"Shadowing is a field trip that allows the FAST student, who is referred from businesses, schools and community organizations, to spend one to eight hours with a disabled person at Marshall or an understanding person in a business environment, adds Miller. "Shadowing not only offers insight into a particular field, it also demonstrates the work place can be adapted to accommodate the special needs of a disabled employee. To volunteer or get more information, contact Miller at 4-0090 or TDD 6919 or Kathy Brown at 4-6727 or TDD 6730.

Storm Spotter Training Offered; Plans in Work for Network

The Huntsville-Madison County Emergency Management Agency is sponsoring an Advanced Severe Weather Spotters Course taught by the National Weather Service on Wednesday, March 12, from 6-8 p.m. at the Jaycee Building on Airport Road. The course is limited to people who have completed the Basic Spotters Course. Those who complete the course will receive a Storm Spotters certificate from the National Weather Service, according to Joyce Davis, Marshall's emergency preparedness officer.

Marshall's Emergency Operations Center will begin planning meetings for establishing a Center storm spotter network in March or early April.

"If you have not had basic spotter training but are interested in joining our network, we have made arrangements with the National Weather Service to provide training here at Marshall when our spotter network gets established," said Davis.

Interested individuals should provide their name, organization, and telephone number to Davis at mail code AB11.



Steven Franklin, a Lockheed-Martin mechanical engineer, works with FAST students Jennifer Benson, left, and Jessica Stover, both of Hartselle High School. Photo by Terry Liebold

Additional Station Node

from page 1

Construction of the two nodes will be delegated to the Italian Space Agency. Plans to convert the Node 1 structural test article, located at Boeing's facilities at the Marshall Center, into the Node 2 flight article will be revised accordingly.

Although the construction of the two nodes by ESA is the primary service supplied to NASA under the barter agreement, the agreement also includes requirements for ESA to supply a crew refrigerator/freezer unit for the station's habitation module; a cryogenic freezer unit for the U.S. laboratory module; and a variety of other minor hardware.

Black History Month Program

from page 2

- Create a better atmosphere for lifestyle and health care by focusing attention on personal productivity and a sense of moral and social commitment; and
- Create an atmosphere of love by showing significant and positive images of respect for each other.

Organizations present at the event to represent the program's focus on youth included the Harris Home for Children, the Coalition on At-Risk Minority Males and Community Intensive Treatment for Youth.

Organizations such as these "will be on the receiving end of the year-long commitment to the program," said Joe Hobson, committee chair. "Both the Equal Opportunity Office and I have received numerous calls indicating an interest in participating in the program and in upcoming events.

Such upcoming events include an initial meeting for mentors at 2:30 p.m., on March 13 in Building 4203, Room 4002. All interested persons are invited to attend the meeting, Hobson said.

"Our initial plans include setting up educational tours of Center facilities for these at-risk children where Marshall employees will have an opportunity to mingle with the kids and answer questions pertaining to the facilities and their careers," Hobson added.

Employee Ads

Miscellaneous

- ★ BCS Tiller with 8 h.p. Kohler engine \$1,100. 533-0278
- ★ Athens MG302 Management Information Systems book. Paid \$56 used, sell for \$40. 586-7297
- ★ Browning Bow, sights/arrows, dl 29-32", dw 45-70lbs, lo 50/60%, \$100; Thule car rack \$90. 544-1563
- ★ Double barrel 12 gauge shotgun, outside hammers \$200; Winchester 1200, 12 gauge pump shotgun \$175. 534-8186
- ★ Computer Cyrix P686-120, Mid-tower case, 730MB hard drive, video sound, 16MB RAM, \$775. 353-9514
- ★ 29 gallon aquarium w/accessories, Dooney & Bourke wallet and purse, snow village houses, 46" RCA TV. 851-1976
- ★ King size mattress type water bed \$100 or best offer. 851-0739
- ★ 1990 12-HP Murray riding lawnmower with 40-inch cut and grass catcher \$500. 828-6117
- ★ Two side-by-side Valhalla crypts with two prepaid funerals \$6,000. 539-0103
- ★ Panasonic VCR, 4 head, stereo, needs a new head \$50; Amana Microwave, 150 watt \$50. 895-9520
- ★ 1992 to present: Prelude car cover, bra, moon roof visor. Make offer. 539-2951
- ★ Turning plow for garden tractor \$45. 837-3143
- ★ Stepper air-go-meter DP model 17-0800A, monitor indicates pulse and calories, used \$75. 881-3707
- ★ IBM professional graphics display color monitor. No video card. IBM 5175 \$25. 464-9352
- ★ Sears cardio fit health rider; dial resistance; calorie, distance, time and speed monitor \$135. 859-1893
- ★ Cerwin-Vega AT-15 speakers \$400; Sansui TU-S7 tuner \$25; Pioneer PD-M51, 6CD player \$50; Canon AE-1 camera \$250. 830-2806
- ★ Colt SSA by Uberti 45 LC/45 ACP, blue, with Western holster \$325. Firm. 534-8186

Vehicles

- ★ 1996 Kawasaki Bayou 300 ATV, 2 wheel drive \$3,600. 859-1188
- ★ 1995 Chevrolet Blazer, 4-DR, 30K miles, warranty, teal green \$16,900. 883-5413
- ★ 1990 Buick Riviera, 2-DR, coupe, ruby red, CD player, 79K miles \$7,500. 881-2601
- ★ 1995 M-Eclipse GS, 29K miles, call after 6 p.m. 205-423-5724

- ★ 1985 New Yorker, clean, one owner, \$1,500 call after 6 p.m. 852-4682
- ★ 1993 Honda Civic LX, 4-DR, auto A/C, power doors, sunroof etc., 36K miles \$9,000. 536-3697
- ★ 1983 Toyota 4-WD pickup, 1996 paint, 33x12.5 tires. \$2,650 o.b.o. 883-7695
- ★ Honda motorcycle, XL185, trail bike \$650. 852-0142
- ★ 1992 Mercury Grand Marquis GS, Red, \$9,500 o.b.o. 837-9338

Wanted

- ★ Musicians - Madison Community Band seeks new members. We play Panoply, Gazebo concerts. Rehearsals Tuesdays. Call 881-5088 for rehearsal time.

Free

- ★ Outdoor male dog, 1/2 Rottweiler & 1/2 Doberman; 1 yr. old, calm & gentle. 461-0481
- ★ Heinz 57's Chow, Collie & Shepherd mix. 3 females 14 wks old. 828-9724

Found

- ★ Black jacket, found in Bldg. 4201 on the 5th floor call 4-4758 to identify.

Center Announcements

- ☛ **Toastmasters International** — Toastmasters International will have a lunch meeting each Tuesday from 11:30 a.m. to 12:30 p.m. in Building 4610 cafeteria conference room.
- ☛ **Easter Egg Hunt** — The Annual Easter Egg Hunt will be held on March 16 at the Marshall Picnic area. Rain date is March 22 same time. Marshall employees, on-site contractors, and their families are invited. Registration will begin at 2 p.m. with the hunt beginning at 2:30 p.m. Age groups are: Under 2, 2-3, 4-5, 6-7 and 8-10 yrs. Refreshments and door prizes will be provided and the Easter Bunny has agreed to visit. Call Gena Marsh at 4-0128 to volunteer.
- ☛ **MARS Tennis Club** — The Tennis club is currently having its annual membership drive. If you are interested in knowing more about the MARS Tennis Club, contact Tony Kim at 4-9505.
- ☛ **Redstone Toastmasters International** — Redstone Toastmasters International will meet every Tuesday at 6 p.m. in the Morrison's Cafeteria in the Madison Square Mall. For more information call 461-0476

- ☛ **MARS Fishing Club** — The MARS fishing club held its first tournament on March 1 at Goose Pond. John Harbison & Doug Hendrix took first place with 7.1 lbs. Deon Smith & Tim Smith took second place with 6.13 lbs. Ken Anthony & Alex Rawleigh took third place with 5.75 lbs. Big fish weighing 4.43 lbs. was caught by Tim Smith. The next tournament is scheduled for March 15 at Decatur Boat Harbor. For more information on the club, contact Don McQueen (4-9073) or Ross Evans (5-2305).
- ☛ **March Bloodmobile Visit** — The American Red Cross will be at Building 4752 on March 21 at 8 a.m. to 1:30 p.m. for the monthly Marshall Bloodmobile visit. The Red Cross will be giving donors free Tee shirts. By adhering to the following schedule, long waiting lines can be avoided: T - Z, 8 a.m.; Q-S, 8:30 a.m.; M-P, 9 a.m.; I-L, 9:30 a.m.; F - H, 10 a.m.; C-E, 10:30 a.m.; and A-B, 11 a.m.
- ☛ **NCMA** — The Huntsville Chapter of the National Contract Management Assn. will hold a workshop from 8:30 a.m. to 5 p.m. on March 19 at BDM International, 950 Explorer Blvd. Gregory Forham & Karen Manos will speak on the topic "Commercial Item Acquisition." Early registration cost for members is \$135 & nonmembers \$185. For regular registration cost & forms or more information call Harry Chaffee at 726-1241.
- ☛ **Exchange Student** — Will you be a host family? High school students from abroad will be arriving in August to live with American families and attend our local high school. Please share your home and heart with a "son" or "daughter" from another far away country. For more information call 464-0449.

Job Opportunities

CPP 97-13-CP, AST Basic Properties of Materials, GS-1310-14, S&E, Space Science Lab, Micro-gravity Science & Applications Div., Biophysics Br. Closes April 14.

CPP 97-14-CP, AST, Basic Properties of Materials, GS-1310-15, S&E, Space Sciences Lab, Micro-gravity Science & Applications Div., Biophysics Br. Closes April 14.

CPP 97-15-CL, Technology Utilization Specialist, GS-301-11, Technology Transfer Office, Program Control & Management Support Office. Closes March 24.

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